AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0005	15 MAR 01		

6. ISSUED BY CODE

US ARMY ENGINEER DISTRICT, FORT WORTH
ATTN: CESWF-CT (RM 2A19)
PO BOX 17300
FORT WORTH, TX 76102-0300

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

CODE FACILITY CODE

(X)

☒ 9A. AMENDMENT OF SOLICIATION NO.: DACA63-01-B-0002

9B. DATED *(SEE ITEM 11)*: 31 JANUARY 2001

☐ 10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 11)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a)By completing items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (*Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The Solicitation for USARC/OMS (DS/GS)/ECS, FORT SAM HOUSTON, TEXAS, is amended as follows:

See Continuation Sheets.

NOTE: The bid opening date and time remains "1400 local time 29 March 2001," as previously announced.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		*(Signature of Contracting Officer)*	

Item 14. Continued.

CHANGES TO BIDDING SCHEDULE

1. Replace the Bidding Schedule, pages 00010-3 through 00010-7, with the accompanying new Bidding Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002."

CHANGES TO THE SPECIFICATIONS

2. Replacement Sections - Replace the following sections with the accompanying new sections of the same number and title, bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002:"

Section No.	Title
07412	NON STRUCTURAL STANDING SEAM METAL ROOF SYSTEM (NSSSMRS)
08700	BUILDERS' HARDWARE

3. New Sections - The following listed accompanying new sections,each bearing the notation "ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002," shall be added to the specifications and add to the Table of Contents:

Section No.	Title
05510	METAL STAIRS
07710	MANUFACTURED ROOF SPECIALTIES
08332	OVERHEAD COUNTER SHUTTER
08410	ALUMINUM ENTRANCES AND STOREFRONTS

CHANGES TO THE DRAWINGS

4. Replacement Drawings - Replace the following drawings with the accompanying new drawings of the same number and title, bearing the notation "AM #0005":

g01_5.cal		G1	INDEX SHEET VOLUME 1
a108_5.cal	Seq 41	A1.08	ROOF PLAN
a131_5.cal	Seq 64	A1.31	ROOM FINISH SCHEDULE
a132_5.cal	Seq 65	A1.32	ROOM FINISH SCHEDULE
s001_5.cal	Seq 84	S0.01	STRUCTURAL NOTES AND MISCELLANEOUS DETAILS
s002_5.cal	Seq 85	S0.02	MISCELLANEOUS FRAMING DETAILS
s101_5.cal	Seq 86	S1.01	PARTIAL FOUNDATION PLAN - 1
s103_5.cal	Seq 88	S1.03	PARTIAL FOUNDATION PLAN - 3
s104_5.cal	Seq 89	S1.04	PARTIAL FOUNDATION PLAN - 4
s105_5.cal	Seq 90	S1.05	FOUNDATION SECTIONS - 1
s106_5.cal	**Seq 91**	**S1.06**	**FOUNDATION SECTIONS – 2 (New Sheet)**
s110_5.cal	Seq 95	S1.10	PARTIAL SECOND FLOOR PLAN -1
s111_5.cal	Seq 96	S1.11	PARTIAL SECOND FLOOR PLAN -2
s112_5.cal	Seq 97	S1.12	INTERMEDIATE FLOOR SECTIONS I

s113_5.cal Seq 98 S1.13 INTERMEDIATE FLOOR SECTIONS II
s114_5.cal Seq 99 S1.14 INTERMEDIATE FLOOR SECTIONS III
s115_5.cal Seq 100 S1.15 INTERMEDIATE SECTIONS & DETAILS IV
s117_5.cal Seq 102 S1.17 PARTIAL ROOF FRAMING PLAN - 2
s118_5.cal Seq 103 S1.18 PARTIAL ROOF FRAMING PLAN - 3
s119_5.cal Seq 104 S1.19 PARTIAL ROOF FRAMING PLAN - 4
s120_5.cal Seq 105 S1.20 ROOF SECTIONS - 1
s121_5.cal Seq 106 S1.21 ROOF SECTIONS - 2
a204_5.cal Seq 184 A2.04 ROOF PLAN & DETAILS
a214_5.cal Seq 194 A2.14 ROOM FINISH SCHEDULE & SIGNAGE DETAILS
s001a_5.cal Seq 199 S0.01 STRUCTURAL NOTES AND MISCELLANEOUS DETAILS
s002a_5.cal Seq 200 S0.02 MISCELLANEOUS FRAMING DETAILS
s201_5.cal Seq 201 S2.01 PARTIAL FOUNDATION PLAN - 1
s202_5.cal Seq 202 S2.02 PARTIAL FOUNDATION PLAN - 2
s203_5.cal Seq 203 S2.03 FOUNDATION SECTIONS - 1
s206_5.cal Seq 206 S2.06 PARTIAL ROOF FRAMING PLAN - 1
s207_5.cal Seq 207 S2.07 PARTIAL ROOF FRAMING PLAN - 2
s208_5.cal Seq 208 S2.08 ROOF SECTIONS - 1
a304_5.cal Seq 274 A3.04 ROOF PLAN & DETAILS
a315_5.cal Seq 285 A3.15 ROOM FINISH SCHEDULE & SIGNAGE DETAILS
s001b_5.cal Seq 290 S0.01 STRUCTURAL NOTES AND MISCELLANEOUS DETAILS
s002b_5.cal Seq 291 S0.02 MISCELLANEOUS FRAMING DETAILS
s301_5.cal Seq 293 S3.01 PARTIAL FOUNDATION PLAN - 1
s302_5.cal Seq 294 S3.02 PARTIAL FOUNDATION PLAN - 2
s303_5.cal Seq 295 S3.03 FOUNDATION SECTIONS - 1
s304_5.cal Seq 296 S3.04 FOUNDATION SECTIONS - 2
s305_5.cal Seq 297 S3.05 FOUNDATION SECTIONS - 3
s307_5.cal Seq 299 S3.07 PARTIAL ROOF FRAMING PLAN - 1
s308_5.cal Seq 300 S3.08 PARTIAL ROOF FRAMING PLAN - 2
s309_5.cal Seq 301 S3.09 PARTIAL ROOF FRAMING PLAN - 3
s310_5.cal Seq 302 S3.10 ROOF FRAMING SECTIONS - 1
s311_5.cal Seq 303 S3.11 ROOF FRAMING SECTIONS - 2
s312_5.cal Seq 304 S3.12 WALL FRAMING - 1
s313_5.cal Seq 305 S3.13 WALL FRAMING - 2

END OF AMENDMENT

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

USARC/OMS (DS/GS)/ECS (Title)
Fort Sam Houston, Texas (Location)

Solicitation No. DACA63-01-B-0002

BIDDING SCHEDULE
(To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
BASE BID: All work required by the plans and specifications for the construction of the Training Center and Storage Facility excluding all Options.					
0001AA	Construct Training Center, complete (Including all utilities to the 1524mm (5 foot) line exclusive of all work listed separately)	Job	Sum	***	$_____
0001AB	Kitchen Equipment	Job	Sum	***	$_____
0001AC	Wire Mesh Partitions	Job	Sum	***	$_____
0001AD	Metal Lockers and Benches	Job	Sum	***	$_____
0001AE	Metal Shelving	Job	Sum	***	$_____
0001AF	Dehumidifier	Job	Sum	***	$_____
0002AA	Construct Storage Facility, complete (Including all utilities to the five foot line exclusive of all work listed separately)	Job	Sum	***	$_____
0002AB	Wire Mesh Partitions	Job	Sum	***	$_____
0002AC	Metal Shelving	Job	Sum	***	$_____
0003	457mm (18-In) Drilled Piers	3,820	M	$_____	$_____
0004	Hazardous Waste	Job	Sum	***	$_____

Solicitation No. DACA63-01-B-0002

BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
0005	All Exterior Work outside the buildings' 1524mm (5 foot) line (Including all utilities, earthwork, paving, sidewalk, curb and gutter, turfing, landscaping and all other work not listed separately	Job	Sum	***	$_____
	TOTAL BASE BID				$_____
0006	OPTION NO. 1: All work required by the plans and specifications for the construction of the North Gravel Parking Lot at ECS.	Job	Sum	***	$_____
0007	OPTION NO. 2: All work required by the plans and specifications for the construction of the MKT Pad at the Training Building.	Job	Sum	***	$_____
0008	OPTION NO. 3: All work required by the plans and specifications for the ECS Facility Crane to cover Second Bay.	Job	Sum	***	$_____
0009	OPTION NO. 4: All work required by the plans and specifications for the construction of the South Gravel Parking Lot at ECS.	Job	Sum	***	$_____
0010	OPTION NO. 5: All work required by the plans and specifications for the Revisions to the OMS Building.	Job	Sum	***	$_____
0010AB	Wire Mesh Partitions	Job	Sum	***	$_____
0010AC	Metal Shelving	Job	Sum	***	$_____
0011	OPTION NO. 6: All work required by the plans and specifications for the construction of the ECS Facility including concrete apron.				

Solicitation No. DACA63-01-B-0002

BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
0011AA	ECS Building, complete (including all utilities to the 1524mm (5-foot) line exclusive of all work listed separately)	Job	Sum	***	$_____
0011AB	Wire Mesh Partitions	Job	Sum	***	$_____
0011AC	Metal Shelving	Job	Sum	***	$_____
0011AD	Metal Lockers & Benches	Job	Sum	***	$_____
0011AE	457mm (18-In) Drilled Pier	1,145	M	$_____	$_____
0011AF	All Exterior Work outside the building 1524mm (5-foot) line (including demolition, utilities paving and of all work not listed separately)	Job	Sum	***	$_____

Total Option No. 6 $_____

TOTAL BASE BID PLUS OPTIONS 1 THRU 6 $_____

BIDDING SCHEDULE (cont)

NOTES:

1. ARITHMETIC DISCREPANCIES: (1989 JUL)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

(1)Obviously misplaced decimal points will be corrected;

(2)In case of discrepancy between unit price and extended price, the unit price will govern;

(3)Apparent errors in extension of unit prices will be corrected; and

(4)Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purposes of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids. (EFARS 14.406-2)

(c) These Correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items.

4. Costs attributable to Division 01 - General Requirements are assumed to be prorated among bid items listed.

5. Responders are advised that this requirement may be delayed, canceled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Services.

BIDDING SCHEDULE (cont)

NOTES: (cont)

6. For the purpose of this solicitation, the word "item" shall be considered to mean "schedule" as used in Provision 52.215-16 III, CONTRACT AWARD, in Section 00100 INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS, excluding additives, deductives or options

7 EVALUATION OF OPTIONS (JUL 1990) (FAR 52.217-5)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

8. The Government reserves the right to exercise the option(s) either singularly or in any combination for up 90 calendar days after award of the Base Bid without an increase in the Offeror's Bid Price.

9. ABBREVIATIONS

M	Meter
mm	Millimeter

END OF BIDDING SCHEDULE

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

SECTION 05510
(MDS)

METAL STAIRS

PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Steel stair frame of structural sections, with closed risers.

1.1.2 Pans to receive concrete-fill stair landings.

1.1.3 Balusters and hand railings.

1.2 RELATED SECTIONS

1.2.1 Section 03300 - Cast-In-Place Concrete: Concrete fill in stair landings with mesh reinforcement.

1.2.2 Section 09900 - Painting: Paint finish.

1.3 REFERENCES

1.3.1 Not Used.

1.3.2 ASTM A36 - Structural Steel.

1.3.3 ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.

1.3.4 ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

1.3.5 Not Used.

1.3.6 ASTM A283 - Carbon Steel Plates, Shapes, and Bars.

1.3.7 Not Used.

1.3.8 ASTM A325 - High Strength Bolts for Structural Steel Joints.

1.3.9 ADAAG - Americans with Disabilities Act Accessibility Guidelines

1.3.10 ASTM A446 - Steel Sheet, ZinCoated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.

1.3.11 ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.

1.3.12 SSPC 15 - Red Lead, Iron Oxide, Raw Linseed Oil and Alkyd Primer

1.3.13 AWS A2.0 - Standard Welding Symbols.

1.3.14 AWS D1.1 - Structural Welding Code.

1.3.15 SSPC SP2 - Steel Structures Painting Council - (1989) Hand Tool Cleaning

1.4 DESIGN REQUIREMENTS

1.4.1 Fabricate stair assembly to support live load of 7.5kPa with deflection of stringer or landing framing not to exceed 1/240 of span.

1.4.2 Railing assembly, wall rails, and attachments to resist lateral force of 4.448N at any point without damage or permanent set.

1.4.3 Applicable code requirements shall meet or exceed all local, state, federal codes, and ADA requirements that are applicable to the design of a stair and railing system.

1.5 SUBMITTALS:

1.5.1 Submit under the provisions of Section 01330.

SD-04 Drawings

Metal Stairs; FIO.

Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

SD-13 Certificates

Welders Certification; FIO.

Certification of welders employed on the Work in this section, verifying AWS qualification within the previous 12 months.

1.6 QUALIFICATIONS

1.6.1 Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the place where the Project is located.

1.7 FIELD MEASUREMENTS

1.7.1 Verify that field measurements are as indicated on shop drawings.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Steel Sections: ASTM A36.

2.1.2 Steel Tubing: ASTM A500, Grade B.

2.1.3 Plates: ASTM A283.

2.1.4 Pipe: ASTM A53, Grade B Black and Hot-Dipped, ZinCoated Welded and Seamless.

2.1.5 Sheet Steel: ASTM A446, Grade B Structural Quality with 381.3g/sq. m.

2.1.6 Stair Treads: Prefabricated factory assembled and poured stairwell package, consisting of the following:

2.1.6.1 Base compound at 9.53mm thick which has cured to a compressive strength of 95MPa.

2.1.6.2 Resistant to chemical, industrial and acids.

2.1.6.3 Noise absorbent and fire resistant.

2.1.7 Concrete for Landings: Portland cement Type I psi 28 day strength, 50.8 to 76.2mm slump.

2.1.8 Landing Concrete Reinforcement: Mesh type galvanized.

2.1.9 Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.

2.1.10 Exposed Mechanical Fastenings: Flush countersunk screws or bolts; consistent with design of stair structure.

2.1.11 Welding Materials: AWS D1.1; type required for materials being welded.

2.1.12 Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.

2.2 FABRICATION - GENERAL

2.2.1 Fit and shop assemble in largest practical sections, for delivery to site.

2.2.2 Fabricate components with joints tightly fitted and secured.

2.2.3 Continuously seal jointed pieces by intermittent welds and plastic filler.

2.2.4 Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

2.2.5 Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

2.2.6 Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.2.7 Accurately form components required for anchorage of stairs and landings and railings to each other and to building structure.

2.3 FABRICATION - PAN STAIRS AND LANDINGS

2.3.1 Fabricate stairs and landings with closed risers and treads of metal pan construction, ready to receive concrete.

2.3.2 Form treads and risers with minimum .70mm (24 gage) sheet steel stock.

2.3.3 Secure reinforced tread pans to stringers with clip angles; welded in place.

2.3.4 Form stringers with rolled steel channels, 304.8mm.

2.3.5 Form landings with minimum 2.75mm (12 gage) sheet stock. Reinforce underside with angles to attain design load requirements.

2.3.6 Form intermediate baluster posts with 41.28mm diameter 2.37mm (13 gage) steel tubing, welded to stringers.

2.3.7 Prime paint all components.

2.4 FINISHES

2.4.1 Prepare surfaces to be primed in accordance with SSPC SP 2.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that field conditions are acceptable and are ready to receive work.

3.1.2 Beginning of installation means erector accepts existing conditions.

3.2 PREPARATION

3.2.1 Clean and strip primed steel items to bare metal where site welding is required.

3.2.2 Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.3 INSTALLATION

3.3.1 Install items plumb and level, accurately fitted, free from distortion or defects.

3.3.2 Provide anchors, angles required for connecting stairs to structure.

3.3.3 Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

3.3.4 Field weld components indicated on shop drawings. Perform field welding in accordance with AWS D1.1.

3.3.5 Field bolt and weld to match shop bolting and welding. Conceal bolts and screws whenever possible.

3.3.6 Mechanically fasten joints butted tight, flush, and hairline. Grind welds smooth and flush.

3.3.7 Obtain Architect/Engineer approval prior to site cutting or making adjustments not scheduled.

3.3.8 After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

END OF SECTION

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

SECTION 07412
(MDS)

NON STRUCTURAL STANDING SEAM METAL ROOF SYSTEM (NSSSMRS)
(AM#0003)

PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Precoated galvanized steel or aluminum roofing and associated integral flashings.

1.1.2 Board Insulation placed under metal roof system.

1.1.3 Integral gutters and downspouts.

1.1.4 NOT USED

1.1.5 NOT USED

1.2 RELATED SECTIONS

1.2.1 Section 05311 - STEEL ROOF DECK

1.2.2 Section 07900 - JOINT SEALER.

1.3 REFERENCES

1.3.1 ALUMINUM ASSOCIATION (AA)

1.3.1.1 AA ASD-1 (1990) Aluminum Standards and Data

1.3.1.2 AA SAS-30 (DEC 1986; 5th Ed.) Aluminum Construction Manual Series - Section 1 Specifications for Aluminum Structures

1.3.2 AMERICAN IRON AND STEEL INSTITUTE (AISI)

1.3.2.1 AISI SG-673 (1986; Addenda 1989; Errata Nov 30, 1990) Cold-Formed Steel Design Manual

1.3.3 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1.3.3.1 ASTM A 463 (1996a) Steel Sheet, Aluminum-Coated, by the Hot-Dip Process (Type 1 and Type 2)

1.3.3.2 ASTM A 653 (1996) Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-dip Process

1.3.3.3 ASTM A 792 (1995) Steel Sheet, Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

1.3.3.4 ASTM B 117 (1994) Salt Spray (Fog) Testing

1.3.3.5 ASTM B 209 (1996) Aluminum and Aluminum-Alloy Sheet and Plate

1.3.3.6 ASTM C 518 (1991) Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

1.3.3.7 ASTM C 518 (1991) Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

1.3.3.8 ASTM C 991 (1992) Flexible Glass Fiber Insulation for Pre-Engineered Metal Buildings

1.3.3.9 ASTM C 1289 (1995) Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board

1.3.3.10 ASTM D 226 (1994) Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

1.3.3.11 ASTM D 522 (1993a) Mandrel Bend Test of Attached Organic Coatings

1.3.3.12 ASTM D 523 (1989) Specular Gloss

1.3.3.13 ASTM D 714 (1987) Evaluating Degree of Blistering of Paints

1.3.3.14 ASTM D 968 (1993) Abrasion Resistance of Organic Coatings by Falling Abrasive

1.3.3.15 ASTM D 1308 (1987; R1993) Effect of Household Chemicals on Clear and Pigmented Organic Finishes

1.3.3.16 ASTM D 1654 (1992) Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments

1.3.3.17 ASTM D 2244 (1993) Calculation of Color Differences from Instrumentally Measured Color Coordinates

1.3.3.18 ASTM D 2247 (1994) Testing Water Resistance of Coatings in 100 Percent Relative Humidity

1.3.3.19 ASTM D 2794 (1993) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

1.3.3.20 ASTM D 3359 (1995) Measuring Adhesion by Tape Test

1.3.3.21 ASTM D 4214 (1989) Evaluating the Degree of Chalking of Exterior Paint Films

1.3.3.22 ASTM D 4397 (1996) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

1.3.3.23 ASTM D 4587 (1991) Conducting Tests on Paint and Related Coatings and Materials Using a Fluorescent UV-Condensation Light and Water Exposure Apparatus

1.3.3.24 ASTM E 84 (1996a) Surface Burning Characteristics of Building Materials

1.3.3.25 ASTM E 96 (1992) Water Vapor Transmission of Materials

1.3.4 UNDERWRITERS LABORATORIES (UL)

1.3.4.1 UL 580 (1998) Tests for Uplift Resistance of Roof Assemblies

1.3.4.2 Roofing Materials & Systems Directory (2000)

1.4 GENERAL REQUIREMENTS

The Contractor shall furnish a manufacturer's standard product that satisfies the specified design and additional requirements contained herein. The roofing system shall be provided by the Contractor as a complete system as tested and approved in accordance with UL-580. Roof panels, components, transitions, accessories, and assemblies shall be supplied by the same roofing system manufacturer.

1.4.1 Non-Structural Standing Seam Metal Roof System

The NSSSMRS covered under this specification shall include the entire roofing system; the standing seam metal roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with UL 580. In addition, the system shall consist of panel finishes, insulation, vapor retarder,

all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, skylights; exterior gutters and downspouts; eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system; and items specified in other sections of the specifications that are part of the system.

1.4.2 Manufacturer

The NSSSMRS shall be the product of a manufacturer who has been in the practice of manufacturing metal roofs for a period of not less than 20 years and has been involved in at least five projects similar in size and complexity to this project.

1.4.3 Installer

The installer shall be certified by the NSSSMRS manufacturer to have experience in installing at least three projects that are of comparable size, scope and complexity as this project for the particular roof system furnished. The installer may be either employed by the manufacturer or be an independent installer. The installer shall provide proof of membership in either the National Roofing Contractor's Association (NRCA) or Sheet Metal and Air Conditioning National Association (SMACNA) for at least 3 years.

1.5 DESIGN LOADS

Wind uplift pressures are shown on the contract drawings. The NSSSMRS assemblies shall be approved to resist wind uplift pressures of Class 90 as defined in UL-580.

1.6 PERFORMANCE REQUIREMENTS

1.6.1 The Contractor shall furnish a commercially available roofing system manufacturer's product, which satisfies all requirements contained herein and has been verified by load testing and independent design analyses to meet the specified design requirements.

1.6.2 The metal roofing system supplied shall be suitable for the roof slope, the underlayment, and uplift pressures shown on the contract drawings.

1.6.3 Thermal Loads: Roof panels shall be free to move in response to the expansion and contraction forces resulting from a total 82 degrees C temperature range during the life of the structure.

1.7 SUBMITTALS

1.7.1 Submit under provisions of Section 01330

SD-04 Drawings

Metal Roofing; GA.

Metal roofing drawings, catalog cuts, and specifications and erection drawings; shop coating and finishing specifications; and other data as necessary to clearly describe design, materials, sizes, layouts, standing seam configuration, construction details, provisions for thermal movement, UL Class 90 approval, fastener sizes and spacings, sealants and erection procedures. Drawings shall reflect the intent of the architectural detailing using the manufacturer's proprietary products and fabricated items as required. The NSSSMR system shop drawings shall be provided by the metal roofing manufacturer.

SD-13 Certificates

Roof Panels; GA, Installation; GA, Accessories; GA.

Certificates attesting that the panels and accessories conform to the specified requirements. Certificate for the roof assembly shall certify that the assembly complies with the material and fabrication requirements specified and is suitable for the installation at the indicated design slope. Certified laboratory test reports showing that the sheets to be furnished are produced under a continuing quality control program and that at least five (5) representative samples of similar material to that which will be provided on this project have been previously tested and have met the quality standards specified for factory color finish.

Insulation; FIO.

Certificate attesting that the polyisocyanurate insulation furnished for the project contains recovered material, and showing an estimated percent of such recovered material.

Installer; FIO.

Certification of installer to include proof of NRCA or SMACNA 3-year, minimum, membership. .
Warranties; GA.

At the completion of the project, signed copies of the 5-year Warranty for the NSSSMRS, a sample copy of which is attached to this section, and the 20-year Manufacturer's Material and Weathertightness Warranties.

SD-14 Samples

Accessories; FIO.

One sample of each type of flashing, trim, fascia, closure, cap and similar items. Size shall be sufficient to show construction and configuration.

Roof Panels; GA.

One piece of each type and finish to be used, 225 mm long, full width.

Fasteners; FIO.

Two samples of each type to be used with statement regarding intended use. If so requested, random samples of screws, bolts, nuts, and washers as delivered to the jobsite shall be taken in the presence of the Contracting Officer and provided to the Contracting Officer for testing to establish compliance with specified requirements.

Gaskets and Insulating Compounds; FIO.

Two samples of each type to be used and descriptive data.

Sealant; FIO.

One sample, approximately 0.5 kg, , and descriptive data.

1.8 MOCKUP

1.8.1 Provide mockup of standing seam metal roof system, 2400mm long x 1200mm wide, which includes a corner condition, associated attachments, accessories, flashings, joints and junctions, terminating items (roof edge conditions), metal decking and insulation.

1.8.2 Locate where directed.

1.8.3 Mock up must be approved by the Contracting Officer and may not remain as part of the Work.

1.9 DELIVERY AND STORAGE

1.9.1 Materials shall be delivered to the site in a dry and undamaged condition and stored out of contact with the ground. Materials shall be covered with weathertight coverings and kept dry. Material shall not be covered with plastic where such covering will allow sweating and condensation. Plastic may be used as tenting with air circulation allowed. Storage accommodations for roof covering shall provide good air circulation and protection from surface staining.

1.10 WARRANTIES

The Non-Structural Standing Seam Metal Roof System shall be warranted as outlined below. Any emergency temporary repairs conducted by the owner shall not negate the warranties.

1.10.1 Contractor's Weathertightness Warranty

The NSSSMRS shall be warranted by the Contractor on a no penal sum basis for a period of five years against material and workmanship deficiencies; system deterioration caused by exposure to the elements and/or inadequate resistance to specified service design loads, water leaks, and wind uplift damage. The NSSSMRS covered under this warranty shall include the entire roofing system and includes but is not limited to; the standing seam metal roof panels, fasteners, connectors, roof securement components, and assemblies tested and approved in accordance with UL 580. In addition, the system shall consist of panel finishes, insulation, vapor retarder, all accessories, components, and trim and all connections with roof panels. This includes roof penetration items such as vents, curbs, skylights; exterior gutters and downspouts; eaves, ridge, hip, valley, rake, gable, wall, or other roof system flashings installed and any other components specified within this contract to provide a weathertight roof system; and items specified in other sections of the specifications that are part of the roof system. All material and workmanship deficiencies, system deterioration caused by exposure to the elements and/or inadequate service design loads, water leaks and wind uplift damage shall be repaired as approved by the Contracting Officer. See the attached Contractor's required warranty for issue resolution of warrantable defects. This warranty shall warrant and cover the entire cost of repair or replacement, including all material, labor, and related markups. The Contractor shall supplement this warranty with written warranties from the installer and system manufacturer, which shall be submitted along with Contractor's warranty; however, the Contractor shall be ultimately responsible for this warranty. The Contractor's written warranty shall be as outlined in attached WARRANTY FOR NON-STRUCTURAL STANDING SEAM METAL ROOF SYSTEM, and shall start upon final acceptance of the facility. It is required that the contractor provide a separate bond in favor of the owner (Government) covering the contractor's warranty responsibilities will remain effective throughout the five year Contractor's warranty period for the entire NSSSMR system as outlined above.

1.10.2 Manufacturer's Material and System WeathertightnessWarranties

1.10.2.1 The Contractor shall furnish, in writing, the following manufacturer's material warranties, which cover all NSSSMRS components such as roof panels, flashing, accessories, and trim, fabricated from coil material.

1.10.2.2 A manufacturer's 20 year material warranty warranting that the aluminum, zinc coated steel, aluminum-zinc alloy coated steel or aluminum-coated steel as specified herein will not rupture, fail structurally, or perforate under normal atmospheric conditions at the site. Liability under this warranty shall be limited exclusively to the cost of either repairing or replacing nonconforming, ruptured, perforated, or structurally failed coil material.

1.10.2.3 A manufacturer's 20 year exterior material finish warranty warranting that the factory color finish, under normal atmospheric conditions at the site, will not crack, peel, or delaminate; chalk in excess of a numerical rating of 8 when measured in accordance with ASTM D 4214; or fade or change colors in excess of 5 NBS units as measured in accordance with ASTM D 2244. Liability under this warranty is exclusively limited to refinishing or replacing the defective coated coil material.

1.10.2.4 A roofing system manufacturer's 20 year system weathertightness warranty. Warranty shall cover the complete roofing system as defined in paragraph 1.4.1.

PART 2 PRODUCTS

2.1 MANUFACTURER AND PROFILE

2.1.1 Subject to compliance with requirements in this section, provide one of the metal roofing systems listed under Roof Deck Construction No. 303 in UL Roof Materials & Systems Directory.

2.2 ROOF AND FASCIA PANELS

2.2.1 Panels shall be either steel or aluminum and shall have a factory color finish and be formed at the factory. Length of sheets shall be sufficient to cover the entire length of any unbroken roof slope when such slope is 9000mm or less. Sheets longer than 9000mm may be furnished if approved by the Contracting Officer. Width of sheets shall provide not more than 406 mm and not less than 300mm of coverage in place. Design provisions shall be made for thermal expansion and contraction consistent with the type of system to be used. All sheets shall be either square-cut or miter-cut. The ridge cap shall not have exposed fasteners. Height of seams shall be not less than 45 mm (1-3/4 inches).

2.2.1.1 Steel Panels: Zinc coated steel conforming to ASTM A 653, aluminum-zinc alloy coated steel conforming to ASTM A 792, AZ 50 coating; or aluminum-coated steel conforming to ASTM A 463, Type 2, coating designation T2 65. Coated roof panels shall be 0.72 mm thick, minimum.

2.2.1.2 Aluminum Panels: Alloy conforming to ASTM B 209, temper as required for the forming operation, minimum 1 mm thick.

2.3 ACCESSORIES

2.3.1 General: Accessories shall be compatible with the roofing furnished and approved by the manufacturer. Flashing, trim, metal closure strips, caps, and similar metal accessories shall be not less than the minimum thicknesses specified for roof panels. Exposed metal accessories shall be finished to match the roof panel color furnished. Molded closure strips shall be bituminous-saturated fiber, closed-cell or solid-cell synthetic rubber or neoprene, or polyvinyl chloride premolded to match configuration of the panels and shall not absorb or retain water.

2.3.2 Gutters and Downspouts: Gutters and downspouts shall be fabricated of the same material (including thickness and finish) as the roof panels and shall have a size and shape as indicated. All accessories for the complete installation shall be furnished. Accessories shall include gutter brackets, downspout elbows, straps, diamond mesh gutter guards and fasteners.

2.4 FASTENERS

2.4.1 Fasteners for roof panels shall be zinc coated steel, aluminum, or nylon-capped steel, type and size as recommended by the manufacturer to meet the performance requirements and match the roof panel color. Fasteners for accessories shall be the manufacturer's standard. Exposed roof fasteners shall be gasketed or have gasketed washers on the exterior side of the roofing to waterproof the fastener penetration. Washer material shall be compatible with the panels; and gasketed portion of fasteners or washers shall be neoprene or other equally durable elastomeric material approximately 3 mm thick.

2.5 FACTORY COLOR FINISH

2.5.1 Roof panels shall be factory color finished. The factory color finish shall consist of a 70 percent resin polyvinylidene fluoride coating. Color shall be as indicated in Section 09915 Color Schedule. The exterior finish shall consist of a baked on topcoat with an appropriate prime coat. The exterior coating shall be a nominal 0.025 mm consisting of a top coat of not less than 0.018 mm dry film thickness and the paint manufacturer’s recommended primer of not less than 0.005 mm thickness. The interior color finish shall consist of a backer coat with a dry film thickness of 0.013 mm, except where interior coat remains exposed it shall have the same finish as the exterior coat. The exterior color finish shall meet the test requirements specified below.

2.5.2 Salt Spray Test: A sample of the sheets shall withstand a salt spray test for a minimum of 1000 hours in accordance with ASTM B 117, including the scribe requirement in the test. Immediately upon removal of the panel from the test, the coating shall receive a rating of 10, no blistering, as determined by ASTM D 714; and rating of 6, over 2.0 to 3.0 mm failure at scribe, as determined by ASTM D 1654.

2.5.3 Formability Test: When subjected to testing in accordance with ASTM D 522 Method B, 3mm diameter mandrel, the coating shall show no evidence of fracturing to the naked eye.

2.5.4 Accelerated Weathering, Chalking Resistance and Color Change: A sample of the sheets shall be tested in accordance with ASTM D 4587, test condition D 2000 total hours. The coating shall withstand the weathering test without cracking, peeling, blistering, loss of adhesion of the protective coating, or corrosion of the base metal. Protective coating that can be readily removed from the base metal with tape in accordance with ASTM D 3359, Test Method B, shall be considered as an area indicating loss of adhesion. Following the accelerated weathering test, the coating shall have a chalk rating not less than No. 8 in accordance with ASTM D 4214 test procedures, and the color change shall not exceed 5 CIE or Hunter Lab color difference (delta E) units in accordance with ASTM D 2244.

2.5.5 Humidity Test: When subjected to a humidity cabinet test in accordance with ASTM D 2247 for 1000 hours, a scored panel shall show no signs of blistering, cracking, creepage or corrosion.

2.5.6 Impact Resistance: Factory-painted sheet shall withstand direct and reverse impact in accordance with ASTM D 2794 13mm diameter hemispherical head indenter, equal to 6.7 times metal thickness in mm, expressed in N-meters, with no loss of adhesion.

2.5.7 Abrasion Resistance Test: When subjected to the falling sand test in accordance with ASTM D 968 Method A, the coating system shall withstand a minimum of 50 liters per mil of sand before the appearance of the base metal. The term "appearance of the base metal" refers to the metallic coating on steel or the aluminum base metal.

2.5.8 Specular Gloss: Finished panel surfaces shall have a specular gloss of 30 plus or minus 5 at an angle of 60 degrees when measured in accordance with ASTM D 523.

2.5.9 Pollution Resistance: Coating shall show no visual effects when covered spot tested in a 10 percent hydrochloric acid solution for 24 hours in accordance with ASTM D 1308.

2.6 INSULATION

Thermal resistance of insulation shall be not less than the R-values shown on the contract drawings. R-values shall be determined at a mean temperature of 24 degrees C in accordance with ASTM C 518. Insulation shall be a standard product with the insulation manufacturer, factory marked or identified with insulation manufacturer's name or trademark and R-value. Identification shall be on individual pieces or individual packages. The stated R-value of the insulation shall be certified by an independent Registered Professional Engineer if tests are conducted in the insulation manufacturer's laboratory.

2.6.1 Polyisocyanurate Insulation for Use Above a Roof Deck

Polyisocyanurate insulation shall conform to ASTM C 1289, Type V, having a minimum recovered material content of 9 percent by weight of core material in the polyisocyanurate portion. Insulation shall have a bonded top layer of 11 mm (7/16") thick OSB and a fiberglass reinforced facer on the bottom. To compensate for aging, maximum design R-value per 25 mm (1") of insulation for the polyisocyanurate component shall be 0.99 square meters times degree K divided by watts (5.56 hours times square feet times degree F divided by BTU). Insulation shall be Johns Manville "Nailboard", or equal.

2.6.2 Blanket Insulation

Blanket insulation shall conform to ASTM C 991.

2.7 CONCEALED ANCHOR CLIPS

2.7.1 Concealed anchor clips shall have factory punched or drilled holes for attachment. There shall be a minimum of two fasteners per clip. Fasteners shall be anchored to structural metal deck or other structural support below. Fasteners shall not be anchored to nailboard alone, nailboard is used for rigidity only and is not an appropriate means of support for clips.

2.8 SEALANT

2.8.1 Except as stated below, sealants shall be elastomeric type containing no oil or asphalt. Exposed sealant shall cure to a rubberlike consistency and shall match the color of the surface to which it is applied. All sealants shall be the nonhardening type. Manufacturer's recommended primer shall be used prior to applying urethane sealant to surfaces finished with polyvinylidene fluoride.

2.8.2 Roof panel standing seam ribs shall have a continuous sealant that is factory installed.

2.9 GASKETS AND INSULATING COMPOUNDS

2.9.1 Gaskets and insulating compounds shall be nonabsorptive and suitable for insulating contact points of incompatible materials. Insulating compounds shall be nonrunning after drying.

2.10 NOT USED.

2.11 EPDM RUBBER BOOTS

2.11.1 Flashing devices around pipe penetrations shall be flexible, one-piece devices molded from weather-resistant EPDM rubber. The boots shall have base rings made of aluminum or corrosion resisting steel that conform to the contours of the roof panel to form a weather-tight seal.

2.12 UNDERLAYMENTS

2.12.1 Felt Layer - Provide minimum 30-pound asphalt impregnated felt layer above all roof areas to receive NSSSMRS before placing ice-dam membranes.

2.12.2 ICE-DAM MEMBRANE - Provide ice-dam membrane over all edges, valleys, ridges, hips and around all openings. Membrane shall be designed for high temperature applications, and shall be Stormguard HT by GAF, Vycor Ultra by Grace or equal.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Installation shall be in accordance with the approved erection instructions and drawings. Dissimilar materials that are not compatible when contacting each other shall be insulated from each other by means of gaskets or insulating compounds. Molded closure strips shall be installed wherever covering sheets terminate in open-end configurations, exclusive of flashings. The closure strip installation shall be weather-tight and sealed. Improper or mislocated drill holes shall be plugged with an oversize screw fastener and gasketed washer; however, sheets with an excess of such holes or with such holes in critical locations shall not be used. Exposed surfaces and edges shall be kept clean and free from sealant, metal cuttings, hazardous burrs, and other foreign material. Stained, discolored, or damaged sheets shall be removed from the site.

3.1.2 Roof Panel Installation: Roof panels shall be installed with the standing seams in the direction of the roof slope. The side seam connections for installed panels shall be completed at the end of each day's work. End laps, where required shall be made over framing members. Fascia panels, closures, flashings, EPDM rubber boots and related accessories shall be installed according to the drawings. Fasteners shall not puncture covering sheets except as approved for flashing, closures, and trim. Exposed fasteners shall be installed in straight lines and shall be permitted only at the rakes, eaves, panel splices, and where required for the attachment of flashings, gutter and other similar accessories.

3.1.3 Concealed Anchor Clips: Roof and fascia panels shall be fastened to roof deck with concealed fastening clips or other concealed devices. Clips shall be attached to the metal deck with bolts or screws. The maximum distance between clips, and the spacing and type of fasteners shall conform with UL580 Class I-90 performance requirements for the specific system to be installed on the project. In no case shall that distance be greater than 1219 mm on center.

3.2 INSULATION INSTALLATION

3.2.1 Insulation shall be installed where indicated in accordance with roof manufacturer's instructions. Rigid board insulation shall be laid in close contact. If more than one layer of insulation is required, joints in the second layer shall be offset from joints in the first layer. A layer of blanket insulation shall be placed over the rigid board insulation to be compressed against the underside of the metal roofing to reduce thermal bridging, dampen noise, and prevent roofing flutter. This layer of blanket insulation shall be compressed a minimum of 50 percent. Rigid insulation shall be attached to the metal roof deck with bearing plates and fasteners, as recommended by the insulation manufacturer, so that the insulation joints are held tight against each other, with no less than 1 fastener and bearing plate per 0.37 square meter of insulation. Joints shall be tight and sealed. Layout and joint pattern of insulation and fasteners shall be indicated on the shop drawings.

3.3 NOT USED.

3.4 UNDERLAYMENTS – Installation methods for all underlayments shall be as recommended by the manufacturers. Installed underlayment shall not be exposed to the elements for a period longer than recommended by the manufacturer. Maximum exposure shall be limited to 30 consecutive days regardless of manufacturer's recommendations. Deteriorated or damaged underlayment shall be replaced.

3.5 GUTTER AND DOWNSPOUT INSTALLATION

3.5.1 Gutters shall be attached as recommended by the manufacturer. Gutters shall have gutter guards attached and lay flat over top of the gutter to prevent the collection of debris in the gutter.

3.6 CLEANING AND TOUCH-UP

3.6.1 Exposed NSSSMRS shall be cleaned at completion of installation. Debris that could cause discoloration and harm to the panels, flashings, closures and other accessories shall be removed. Grease and oil films, excess sealants, and handling marks shall be removed and the work shall be scrubbed clean. Exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks. Immediately upon detection, abraded or corroded spots on shop-painted surfaces shall be wire brushed and touched up with the same material used for the shop coat. Factory color finished surfaces shall be touched up as necessary with the manufacturer's recommended touch up paint, using an artist’s brush. Panels damaged to the extent they cannot be touched up with an artist’s brush shall be replaced.

END OF SECTION

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

CONTRACTOR'S FIVE-YEAR PENAL SUM WARRANTY
FOR
NON - STRUCTURAL METAL ROOF SYSTEM

FACILITY DESCRIPTION:_____

BUILDING NUMBER:_____

CORPS OF ENGINEERS CONTRACT NUMBER:_____

CONTRACTOR_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

OWNER:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

CONSTRUCTION AGENT:_____

ADDRESS:_____

POINT OF CONTACT:_____

TELEPHONE NUMBER:_____

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
NON - STRUCTURAL STANDING SEAM METAL ROOF SYSTEM
(continued)

THE NON-STRUCTURAL METAL ROOF SYSTEM INSTALLED ON THE ABOVE NAMED BUILDING IS WARRANTED BY _____ FOR A PERIOD OF FIVE (5) YEARS AGAINST WORKMANSHIP AND MATERIAL DEFICIENCIES, WIND DAMAGE, STRUCTURAL FAILURE AND LEAKAGE. THE STANDING SEAM METAL ROOFING SYSTEM COVERED UNDER THIS WARRANTY SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: THE ENTIRE ROOFING SYSTEM MANUFACTURER SUPPLIED FRAMING AND STRUCTURAL MEMBERS, METAL ROOF PANELS, FASTENERS, CONNECTORS, ROOF SECUREMENT COMPONENTS, AND ASSEMBLIES TESTED AND APPROVED IN ACCORDANCE WITH UL 580. IN ADDITION, THE SYSTEM PANEL FINISHES, INSULATION, VAPOR RETARDER, ALL ACCESSORIES, COMPONENTS, AND TRIM AND ALL CONNECTIONS ARE INCLUDED. THIS INCLUDES ROOF PENETRATION ITEMS SUCH AS VENTS, CURBS, SKYLIGHTS; INTERIOR OR EXTERIOR GUTTERS AND DOWNSPOUTS; EAVES, RIDGE, HIP, VALLEY, RAKE, GABLE, WALL, OR OTHER ROOF SYSTEM FLASHINGS INSTALLED AND ANY OTHER COMPONENTS SPECIFIED WITHIN THIS CONTRACT TO PROVIDE A WEATHERTIGHT ROOF SYSTEM; AND ITEMS SPECIFIED IN OTHER SECTIONS OF THE SPECIFICATIONS THAT ARE PART OF THE ROOF SYSTEM.

ALL MATERIAL DEFICIENCIES, WIND DAMAGE, STRUCTURAL FAILURE AND LEAKAGE ASSOCIATED WITH THE NON-STRUCTURAL METAL ROOF SYSTEM COVERED UNDER THIS WARRANTY SHALL BE REPAIRED AS APPROVED BY THE CONTRACTING OFFICER. THIS WARRANTY SHALL COVER THE ENTIRE COST OF REPAIR OR REPLACEMENT, INCLUDING ALL MATERIAL, LABOR, AND RELATED MARKUPS. THE ABOVE REFERENCED WARRANTY COMMENCED ON THE DATE OF FINAL ACCEPTANCE ON _____ AND WILL REMAIN IN EFFECT FOR STATED DURATION FROM THIS DATE.

SIGNED, DATED, AND NOTARIZED (BY COMPANY PRESIDENT)

_____

(Company President) **(Date)**

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
NON - STRUCTURAL STANDING SEAM METAL ROOF SYSTEM
(continued)

THE CONTRACTOR SHALL SUPPLEMENT THIS WARRANTY WITH WRITTEN WARRANTIES FROM THE MANUFACTURER AND/OR INSTALLER OF THE NON-STRUCTURAL METAL ROOF SYSTEM, WHICH SHALL BE SUBMITTED ALONG WITH THE CONTRACTOR'S WARRANTY. HOWEVER, THE CONTRACTOR WILL BE ULTIMATELY RESPONSIBLE FOR THE THIS WARRANTY AS OUTLINED IN THE SPECIFICATIONS AND AS INDICATED IN THIS WARRANTY. EXAMPLE.

EXCLUSIONS FROM COVERAGE

1. NATURAL DISASTERS, ACTS OF GOD (LIGHTING, FIRE, EXPLOSIONS, SUSTAINED WIND FORCES IN EXCESS OF THE DESIGN CRITERIA, EARTHQUAKES, AND HAIL).

2. ACTS OF NEGLIGENCE OR ABUSE OR MISUSE BY GOVERNMENT OR OTHER PERSONNEL, INCLUDING ACCIDENTS, VANDALISM, CIVIL DISOBEDIENCE, WAR, OR DAMAGE CAUSED BY FALLING OBJECTS.

3. DAMAGE BY STRUCTURAL FAILURE, SETTLEMENT, MOVEMENT, DISTORTION, WARPAGE, OR DISPLACEMENT OF THE BUILDING STRUCTURE OR ALTERATIONS MADE TO THE BUILDING.

4. CORROSION CAUSED BY EXPOSURE TO CORROSIVE CHEMICALS, ASH OR FUMES GENERATED OR RELEASED INSIDE OR OUTSIDE THE BUILDING FROM CHEMICAL PLANTS, FOUNDRIES, PLATING WORKS, KILNS, FERTILIZER FACTORIES, PAPER PLANTS, AND THE LIKE.

5. FAILURE OF ANY PART OF THE NON-STRUCTURAL METAL ROOF DUE TO ACTIONS BY THE OWNER TO INHIBIT FREE DRAINAGE OF WATER FROM THE ROOF AND GUTTERS AND DOWNSPOUTS OR ALLOW PONDING WATER TO COLLECT ON THE ROOF SURFACE. CONTRACTOR'S DESIGN SHALL INSURE FREE DRAINAGE FROM THE ROOF AND NOT ALLOW PONDING WATER.

6. THIS WARRANTY APPLIES TO THE NON-STRUCTURAL METAL ROOF SYSTEM. IT DOES NOT INCLUDE ANY CONSEQUENTIAL DAMAGE TO THE BUILDING INTERIOR OR CONTENTS THAT IS COVERED BY THE WARRANTY OF CONSTRUCTION CLAUSE INCLUDED IN THIS CONTRACT.

7. THIS WARRANTY CANNOT BE TRANSFERRED TO ANOTHER OWNER WITHOUT WRITTENCONSENT OF THE CONTRACTOR AND THIS WARRANTY AND THE CONTRACT PROVISIONS WILL TAKE PRECEDENCE OVER ANY CONFLICTS WITH STATE STATUTES.

REPORTS OF LEAKS AND ROOF SYSTEM DEFICIENCIES SHALL BE RESPONDED TO WITHIN 48 HOURS OF RECEIPT OF NOTICE BY TELEPHONE OR IN WRITING FROM EITHER THE OWNER, OR CONTRACTING OFFICER. EMERGENCY REPAIRS, TO PREVENT FURTHER ROOF LEAKS, SHALL BE INITIATED IMMEDIATELY; A WRITTEN PLAN SHALL BE SUBMITTED FOR APPROVAL TO REPAIR OR REPLACE THIS ROOF SYSTEM WITHIN SEVEN CALENDAR DAYS. ACTUAL WORK FOR PERMANENT REPAIRS OR REPLACEMENT SHALL BE STARTED WITHIN 30 DAYS AFTER RECEIPT OF NOTICE, AND COMPLETED WITHIN A REASONABLE TIME FRAME. IF THE CONTRACTOR FAILS TO ADEQUATELY RESPOND TO THE WARRANTY PROVISIONS, AS STATED IN THE CONTRACT.

CONTRACTOR'S FIVE (5) YEAR NO PENAL SUM WARRANTY
FOR
NON - STRUCTURAL STANDING SEAM METAL ROOF SYSTEM
(Continued)

AND AS CONTAINED HEREIN, THE CONTRACTING OFFICER MAY HAVE THE NON-STRUCTURAL METAL ROOF SYSTEM REPAIRED OR REPAIRED BY OTHERS AND CHARGE THE COST TO THE CONTRACTOR. IN THE EVENT THE CONTRACTOR DISPUTES THE EXISTENCE OF A WARRANTABLE DEFECT HE MAY CHALLENGE THE OWNER'S DEMAND FOR REPAIRS AND/OR REPLACEMENT DIRECTED BY THE OWNER OR CONTRACTING OFFICER EITHER BY REQUESTING A CONTRACTING OFFICER'S DECISION, UNDER THE CONTRACT DISPUTES ACT, OR BY REQUESTING THAT AN ARBITRATOR RESOLVE THE ISSUE. THE REQUEST FOR AN ARBITRATOR MUST BE MADE WITHIN 48 HOURS OF BEING NOTIFIED OF THE DISPUTED DEFECTS. UPON BEING INVOKED THE PARTIES SHALL, WITHIN 10 DAYS JOINTLY REQUEST A LIST OF FIVE (5) ARBITRATORS FROM THE FEDERAL MEDIATION AND CONCILIATION SERVICE. THE PARTIES SHALL CONFER WITHIN 10 DAYS AFTER RECEIPT OF THE LIST TO SEEK AGREEMENT ON AN ARBITRATOR. IF THE PARTIES CANNOT AGREE ON AN ARBITRATOR, THE CONTRACTING OFFICER AND THE PRESIDENT OF THE CONTRACTOR'S COMPANY WILL STRIKE ONE (1) NAME FROM THE LIST ALTERNATIVELY UNTIL ONE NAME REMAINS. THE REMAINING PERSON SHALL BE THE DULY SELECTED ARBITRATOR. THE COSTS OF THE ARBITRATION, INCLUDING THE ARBITRATOR'S FEE AND EXPENSES, COURT REPORTER, COURTROOM OR SITE SELECTED ETC., SHALL BE BORNE EQUALLY BETWEEN THE PARTIES . EITHER PARTY DESIRING A COPY OF THE TRANSCRIPT SHALL PAY FOR THE TRANSCRIPT. A HEARING WILL BE HELD AS SOON AS THE PARTIES CAN MUTUALLY AGREE. a WRITTEN ARBITRATOR'S DECISION WILL BE REQUESTED NOT LATER THAN 30 DAYS FOLLOWING THE HEARING. THE DECISION OF THE ARBITRATOR WILL NOT BE BINDING; HOWEVER, IT WILL BE ADMISSIBLE IN ANY SUBSEQUENT APPEAL UNDER THE CONTRACT DISPUTES ACT.

A FRAMED COPY OF THIS WARRANTY SHALL BE POSTED IN THE MECHANICAL ROOM OR OTHER APPROVED LOCATION DURING THE ENTIRE WARRANTY PERIOD.

END

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

SECTION 07710
(MDS)

MANUFACTURED ROOF SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Copings.

1.2 RELATED SECTIONS

1.2.1 Section 05311 - Steel Roof Deck: Metal deck perimeter stops.

1.2.2 Section 04320 - Veneer Masonry System.

1.2.3 Section 07412 - Non Structural Standing Seam Metal Roof

1.2.4 Section 07620 - Sheet Metal Flashing and Trim.

1.3 REFERENCES

1.3.1 NRCA (National Roofing Contractors Association) - Roofing and Waterproofing Manual.

1.3.2 SMACNA - Architectural Sheet Metal Manual.

1.4 SUBMITTALS:

1.4.1 Submit under provisions of Section 01330.

SD-04 Drawings

Copings; FIO.

Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

SD-01 Data

Copings; FIO.

Provide data on shape of components, materials and finishes, anchor types and locations.

SD-14 Samples

Copings; FIO.

Submit two samples,150 x 200mm in size illustrating component shape, finish, and color.

SD-06 Instructions

Copings; FIO.

Indicate manufacturers' special procedures and perimeter conditions requiring special attention.

1.5 QUALITY ASSURANCE

1.5.1 Perform Work in accordance with SMACNA details.

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 Architectural Products Co.

2.1.2 W. P. Hickman Company

2.1.3 Petersen Aluminum Corp.

2.2 COMPONENTS

2.2.1 Copings: Formed aluminum, min. 1.6mm thick, shaped as indicated, including special supports spaced as required by the manufacturer. Include cover plates, weather seal joints, and attachment flanges.

2.3 ACCESSORIES

2.3.1 Sealant: Same as specified in Section 07900 - Silicone Sealant, Type S.

2.3.2 Roofing Cement: ASTM D2822, Type I, cutback asphalt type.

2.4 FINISHES

2.4.1 All metal shall be pre-finished aluminum coated with full strength Kynar 500 finish with a 20-year warranty by the manufacturer of the item. Color of exposed accessories shall match the color of the standing seam metal rrof.

2.4.2 The coating shall conform to the following:

2.4.2.1 Abrasion Resistance - ASTM D 968, the coefficient of sand abrasion will be 65 5 10.

2.4.2.2 Accelerated Weathering - ASTM G-23, Type EH, Duration 5,000 hours.

2.4.2.3 Adhesion - ASTM D3359, cross cut tape test per NCCA procedure No. II-5.

2.4.2.4 Chalk Resistance - ASTM D 659, should have a no-chalk rating of 8 to 10.

2.4.2.5 Chemical/Acid Pollution Resistance - ASTM D 1808, chemical spot test.

2.4.2.6 Color Change - ASTM 2244, no greater than 5.0. E. Hunter units after removal of external deposits.

2.4.2.7 Color Consistency - ASTM 2905, will not change color more than 5 NBS units.

2.4.2.8 Formability - ASTM D 3281 and ASTM D 1737, can be formed without film fracture using normal metal shop practices to a 1 to 2-T bend radius.

2.4.2.9 Gloss - ASTM D 523, Specular gloss of 30 degrees + 5 degrees reflectivity at 60 degree angle.

2.4.2.10 Hardness - ASTM D 3363, the pencil hardness will be F minimum.

2.4.2.11 Humidity Resistance - ASTM 2247, Duration: 1,000 hours - no change in pencil hardness; no field blisters.

2.4.2.12 Impact Resistance - ASTM D 2794, no removal when taped, National Coil Coated Association Technical Bulletin No. II-6, Impact force 70 in/lbs.

2.4.2.13 Life Expectancy - 20 years plus; Architectural Tests: Weatherometer Method 6152 after 5,000 hours exposure value, acceptable per Fed Test Method 141.

2.4.2.14 Salt Spray Resistance - ASTM B 117, Duration: 1,000 hours for hot dipped galvanized; 2,000 hours for Aluminum.

2.4.2.15 Solvent Resistance - No comparable ASTM, solvent resistance per NCCA No. II-18 procedure.

2.4.2.16 Weathering Dew Cycle - ASTM D 3361, unshielded dew cycle tested for 500 cycles Immersion in aerated distilled water at 80 degrees + 10 degrees 500 hours plus 1 hour recovery.

2.4.3 Color selection shall be as indicated on the drawings.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that other items affecting work of this Section are in place and positioned correctly.

3.2 INSTALLATION

3.2.1 Install components in accordance with manufacturer's instructions.

3.2.2 Conform to SMACNA - Architectural Sheet Metal Manual drawing details as noted.

3.2.3 Coordinate installation of components of this section with installation of roofing and related flashings.

3.2.4 Coordinate installation of sealants and roofing cement with work of this section to ensure water tightness.

3.2.5 Coordinate installation of flashing flanges into reglets.

END OF SECTION

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

SECTION 08332
(MDS)

OVERHEAD COUNTER SHUTTER

PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Overhead counter shutter with operating hardware with manual push-up/pull down operation - Bldg. A doors 211D and 211E.

1.1.2 Overhead fire-rated counter shutter with automatic closure when initiated by fire signal, operating hardware with manual push-up operation.

1.2 RELATED SECTIONS

1.2.1 Section 05500 - Metal Fabrications: Support framing.

1.2.2 Section 08710 - Door Hardware: Keys.

1.2.3 Section 9900 - Painting: Finish paint coating per Finish Schedule.

1.3 REFERENCES

1.3.1 ASTM A480/A480M - Flat Rolled Stainless Heat Resisting Steel Plate, Sheet, and Strip.

1.3.2 ASTM B221/A221M - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

1.3.3 NFPA 80 - Fire Doors and Windows

1.4 SYSTEM DESCRIPTION

1.4.1 Manual push-up/pull down unit with overhead counter balance device, requiring a maximum of 11.34 kg nominal force to operate.

1.4.2 Automatic closure of the shutter is initiated by the fire alarm system in compliance with NFPA 80. A governor shall control the descent speed of the shutter.

1.4.3 Coiling Shutter: Surface mounted.

1.5 SUBMITTALS:

Submit under the provisions of Section 01330:

SD-01 Data

Overhead Shutter; FIO.

Provide general construction, fire-rating requirements, component connections and details.

SD-04 Drawings

Overhead Shutter; FIO.

Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.

SD-14 Samples

Overhead Shutter; FIO.

Submit two shutter slats, 95.3 x 9.5mm in size illustrating shape, color and finish texture.

SD-06 Instructions

Overhead Shutter; FIO.

Indicate manufacturer's installation sequence and procedures, adjustment, and alignment procedures.

SD-19 Operation and Maintenance Data

Include data on coiling door operation, maintenance, and warranties. Indicate requirements for periodic lubrication and adjustments.

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 Atlas Roll-Lite Overhead Doors, Div. of MASCO.

2.1.2 The Cookson Company.

2.1.3 Overhead Door Corp.

2.2 MATERIALS

2.2.1 Curtain:

2.2.1.1 Non-insulated slats: Interlocking, minimum 0.759 mm (22 gage) thick of ASTM A526 steel, galvanized to minimum 380 q/sq m coating in accordance with ASTM A525; single thickness slat.

2.2.1.2 Nominal Slat Size:75 mm wide x required length.

2.2.1.3 Slat Ends: Alternate slats fitted with end locks to act as wearing surface in guides and to prevent lateral movement.

2.2.1.4 Curtain Bottom: Fitted with angles to provide reinforcement and positive contact with sill in closed position.

2.2.2 Guides: 4.8mm thick; 76.2mm wide; galvanized steel conforming to ASTM A526, galvanized to minimum 380 g/sq m coating in accordance with ASTM A525 of continuous angles, of profile to retain door in place with snap-on trim, mounting brackets of same metal.

2.2.3 Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension.

2.2.4 Hood Enclosure: .70mm (24 gage) galvanized steel; internally reinforced to maintain rigidity and shape.

2.2.5 Hardware: Locking shall consist of keyed latch which locks shutter closed per manufacturer's standard. The keyed side of curtain shall be provided with a lift handle.

2.3 FINISHES

2.3.1 Curtain Slats: Steel, galvanized from the factory. Apply finish coat after installation; color as indicated.

2.3.2 Steel Guides and Hood Enclosure: Prime paint from the factory. Apply finish coat after installation; same color as slats.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Prior to beginning work, verify existing conditions and verify that opening sizes, tolerances and conditions are acceptable.

3.2 INSTALLATION

3.2.1 Install door unit assembly in accordance with manufacturer's instructions and NFPA 80.

3.2.2 Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

3.2.3 Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

3.2.4 Fit and align assembly including hardware; level and plumb, to provide smooth operation.

3.2.5 Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.

3.2.6 Install perimeter trim and closures.

3.2.7 Coordinate and connect to the fire alarm system so that unit operation is initiated automatically by activation of the fire alarm system.

3.3 ERECTION TOLERANCES

3.3.1 Maintain dimensional tolerances and alignment with adjacent work.

3.3.2 Maximum Variation From Plumb: 1.5 mm.

3.3.3 Maximum Variation From Level: 1.5 mm.

3.3.4 Longitudinal or Diagonal Warp: Plus or minus 3 mm per 3 m straight edge.

3.4 ADJUSTING

3.4.1 Adjust door, hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

3.5.1 Clean door and components.

3.5.2 Remove labels and visible markings.

END OF SECTION

*** SAFETY PAYS ***

ACCOMPANYING AMENDMENT NO. 0005 TO SOLICITATION NO. DACA63-01-B-0002

SECTION 08410
(MDS)

ALUMINUM ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Aluminum doors, sidelights, transoms and frames.

1.1.2 Perimeter sealant.

1.1.3 Weatherstripping and sill sweep strips.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

1.2.1 Section 05500 - Metal Fabrication: Placement of structural supporting anchors.

1.3 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

1.3.1 Section 08710 - Door Hardware: See corresponding Hardware Sets.

1.3.2 Section 08800 - Glazing.

1.4 RELATED SECTIONS

1.4.1 Section 04320 - Veneer Masonry System: Preparation of adjacent work to receive work of this section.

1.4.2 Section 09260 - Gypsum Board System: Preparation of adjacent work to receive work of this section.

1.4.3 Section 07900 - Sealants: System perimeter sealant and back-up materials.

1.5 REFERENCES

1.5.1 AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

1.5.2 AAMA - Curtain Wall Manual #10 - Care and Handling of Architectural Aluminum From Shop to Site.

1.5.3 AAMA 603.8 - Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum.

1.5.4 AAMA 605.2 - Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.

1.5.5 AAMA SFM-1 - Aluminum Storefront and Entrance Manual.

1.5.6 ANSI A117.1 - Safety Standards for the Handicapped.

1.5.7 ANSI/ASTM A36 - Structural Steel.

1.5.8 ANSI/ASTM A386 - Zinc Coating (Hot Dip) on Assembled Steel Products.

1.5.9 ANSI/ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.

1.5.10 ANSI/ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.

1.5.11 ANSI/ASTM E283 - Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.

1.5.12 ANSI/ASTM E330 - Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

1.5.13 ANSI/ASTM E331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

1.5.14 SSPC - Steel Structures Painting Council.

1.6 SYSTEM DESCRIPTION

1.6.1 Aluminum entrances and storefront system includes shop-fabricated, factory -finished, tubular aluminum sections, door and sidelight glass, hardware, weatherstripping, sill sweeps, flashings, anchorage and attachment devices.

1.7 PERFORMANCE REQUIREMENTS

1.7.1 Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall as calculated in accordance with local code to a design pressure of 1.5kPa as measured in accordance with ANSI/ASTM E330.

1.7.2 Limit mullion deflection to flexure limit of glass with full recovery of glazing materials.

1.7.3 System to accommodate, without damage to components or deterioration of seals, movement within system, movement between system and peripheral construction, dynamic loading and release of loads, deflection of structural support framing.

1.7.4 Limit air leakage through assembly to 22.8 cu m min/min/sq. m of wall area, measured at a reference differential pressure across assembly of 75.17Pa as measured in accordance with AAMA 501.

1.7.5 Vapor Seal with Interior Atmospheric Pressure of 25 mm sp, 22 degrees C, 40 Percent RH: No failure.

1.7.6 Maintain continuous air and vapor barrier throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.

1.7.7 System to provide for expansion and contraction within system components caused by a cycling temperature range of 170 degrees over a 12 hour period without causing detrimental affect to system components.

1.7.8 Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.

1.8 SUBMITTALS:

Submit under provisions of Section 01330.

SD-01 Data

Aluminum Entrances and Storefronts; FIO.

Provide component dimensions, describe components within assembly, anchorage and fasteners, glass, door hardware, internal drainage details and factory-finish requirements.

SD-13 Certificates

Aluminum Entrances and Storefronts; FIO.

Manufacturer’s certification that Products meet or exceed specified requirements.

SD-14 Samples

Aluminum Entrances and Storefronts; FIO.

Submit two samples of each color finish system 100 x 100mm in size illustrating materials, thicknesses, factory-finished aluminum surfaces, glass units, and glazing materials.

1.9 QUALITY ASSURANCE

1.9.1 Perform Work in accordance with AAMA SFM-1 and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

1.9.2 Conform to requirements of ANSI A117.1.

1.10 QUALIFICATIONS

1.10.1 Manufacturer and Installer: Company specializing in manufacturing aluminum glazing systems with minimum six years documented experience.

1.11 PRE-INSTALLATION CONFERENCE

1.11.1 Convene one week prior to commencing work of this Section.

1.12 DELIVERY, STORAGE, AND HANDLING

1.12.1 Deliver aluminum entrance and storefront components in the manufacturer's original protective packaging.

1.12.2 Store aluminum components in a clean dry location away from uncured masonry or concrete. Cover components with waterproof paper, tarpaulin or polyethylene sheeting in a manner to permit circulation of air.

1.12.3 Protect factory-finished aluminum surfaces with wrapping stripable coating. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.

1.13 ENVIRONMENTAL REQUIREMENTS

1.13.1 Do not install sealants when ambient temperature is less than 4.44 degrees C during and 48 hours after installation.

1.14 FIELD MEASUREMENTS

1.14.1 Verify that field measurements are as indicated on shop drawings.

1.15 WARRANTY

1.15.1 Provide three year warranty to include coverage for complete system for failure in meeting specified requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 Kawneer Company, Inc. Model 150mm Encore

2.1.2 United States Aluminum Corp.

2.1.3 Vistawall Architectural Products

2.2 MATERIALS

2.2.1 Extruded Aluminum: ANSI/ASTM B221; 6063 alloy, T5 temper.

2.2.2 Sheet Aluminum: ANSI/ASTM B209 alloy, temper.

2.2.3 Steel Sections: ANSI/ASTM A36; shaped to suit mullion sections.

2.2.4 Fasteners: Stainless steel.

2.2.5 Shop and Touch-Up Primer for Steel Components: SSPC 15, Type 1, red oxide.

2.3 COMPONENTS

2.3.1 Frame: Dimensions as shown and per manufacturer to meet performance requirements; thermally broken with interior tubular section insulated from exterior; flush glazing stops; drainage holes; internal weep drainage system. Frames for interior glazing need not be thermally broken.

2.3.2 Mullion: Dimensions as shown and per manufacturer to meet performance requirements; profile of extruded aluminum mullion with internal reinforcement of shaped steel structural section shall be used as necessary to meet performance requirements.

2.3.3 Doors: 44.45mm thick, 101.6mm wide top rail, 101.6mm wide vertical stiles, 400mm wide bottom rail; square glazing stops.

2.3.4 Flashings: Finished to match mullion sections where exposed.

2.4 GLASS AND GLAZING MATERIALS

2.4.1 Glass and Glazing Materials: See Section 08800 for glass types and see drawings for locations.

2.5 SEALANT MATERIALS

2.5.1 Sealant and Backing Materials: As specified in Section 07900 of Types described below:

2.5.2 Perimeter Sealant: Type S.

2.5.3 Sealant Used Within System (Not Used for Glazing): Type S, Silicone sealant.

2.6 HARDWARE

2.6.1 See Section 08710 for Hardware, except as specified below.

2.6.2 Weatherstripping: Wool pile, continuous and replaceable.

2.6.3 Sill Sweep Strips: Retracting resilient seal type, of neoprene compound.

2.7 FABRICATION

2.7.1 Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

2.7.2 Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

2.7.3 Prepare components to receive anchor devices. Fabricate anchors.

2.7.4 Arrange fasteners and attachments to conceal from view.

2.7.5 Prepare components with internal reinforcement for door hardware and door operator hinge hardware.

2.8 FINISHES

2.8.1 Finish for exterior aluminum entrances and storefronts shall conform to AAMA 605.2 on all exposed aluminum surfaces, having minimum .03mm of dry film thickness. Color shall be as indicated in the drawings.

2.8.2 Finish for interior aluminum entrances and storefronts shall conform to AAMA 603.8 on all exposed aluminum surfaces. Color shall be as indicated in the drawings.

2.8.3 Concealed Steel Items: Galvanized in accordance with ANSI/ASTM A386 to 610g/ sq. m - primed with iron oxide paint.

2.8.4 Apply one coat of bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar materials.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify dimensions, tolerances, and method of attachment with other work.

3.1.2 Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this Section.

3.2 INSTALLATION

3.2.1 Install wall system in accordance with manufacturer's instructions.

3.2.2 Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

3.2.3 Provide alignment attachments and shims to permanently fasten system to building structure.

3.2.4 Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

3.2.5 Provide thermal isolation where components penetrate or disrupt building insulation.

3.2.6 Install sill flashings.

3.2.7 Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

3.2.8 Set thresholds in bed of mastic and secure.

3.2.9 Install hardware using templates provided.

3.2.10 Install glass in accordance with Section 08800, to glazing method required to achieve performance criteria.

3.2.11 Install perimeter sealant to method required to achieve performance criteria, backing materials, and installation criteria in accordance with Section 07900.

3.3 TOLERANCES

3.3.1 Maximum Variation from Plumb: 1.52mm every 900mm non-cumulative or 1.59mm per 3000mm, whichever is less.

3.3.2 Maximum Misalignment of Two Adjoining Members Abutting in Plane: 0.8 mm.

3.4 ADJUSTING

3.4.1 Adjust operating hardware for smooth operation.

3.5 CLEANING

3.5.1 Remove protective material from factory-finished aluminum surfaces.

3.5.2 Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

3.5.3 Remove excess sealant by method acceptable to sealant manufacturer so as not to damage finish.

3.6 PROTECTION OF FINISHED WORK

3.6.1 Protect finished Work from damage.

END OF SECTION

SECTION 08700

BUILDERS' HARDWARE
03/96
Ammendment no. 0005

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 283	(1991) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA L & R Directory	(Effective thru Jun 1999) Directory of Certified Locks & Latches
BHMA Closer Directory	(Effective thru Jul (1999) Directory of Certified Door Closers
BHMA Exit Devices Directory	(Effective thru Aug 1998) Directory of Certified Exit Devices
BHMA A156.1	(1997) Butts and Hinges
BHMA A156.3	(1994) Exit Devices
BHMA A156.4	(1992) Door Controls - Closers
BHMA A156.5	(1992) Auxiliary Locks & Associated Products
BHMA A156.6	(1994) Architectural Door Trim
BHMA A156.7	(1997) Template Hinge Dimensions
BHMA A156.8	(1994) Door Controls - Overhead Stops and Holders
BHMA A156.13	(1994) Mortise Locks & Latches

BHMA A156.16	(1989) Auxiliary Hardware
BHMA A156.18	(1993) Materials and Finishes
BHMA A156.21	(1996) Thresholds

DOOR AND HARDWARE INSTITUTE (DHI)

DHI Keying Systems	(1989) Keying Systems and Nomenclature
DHI Locations for CSD	(1997) Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames
DHI Locations for SSD	(1990) Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames
DHI ANSI/DHI A115.1G	(1994) Installation Guide for Doors and Hardware
DHI ANSI/DHI A115-W	(Varies) Wood Door Hardware Standards (Incl All5-W1 thru A115-W9)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 80	(1999) Fire Doors and Fire Windows
NFPA 101	(1997; Errata 97-1; TIA-97-1) Life Safety Code
NFPA 105	(1999) Installation of Smoke-Control Door Assemblies

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Hardware and Accessories; GA.

Manufacturer's descriptive data, technical literature, catalog cuts, and installation instructions. Spare parts data for locksets, exit devices,

closers, electric locks, electric strikes, electro-magnetic closer holder release devices, and electric exit devices, after approval of the detail drawings, and not later than 3 month(s) prior to the date of beneficial occupancy. The data shall include a complete list of parts and supplies, with current unit prices and source of supply.

SD-04 Drawings

Hardware Devices; GA.

Detail drawings for hardware devices for computerized keying systems, magnetic cards, keyless push button access control systems, and other electrical hardware devices showing complete wiring and schematic diagrams and other details required to demonstrate proper function of units.

SD-07 Schedules

Hardware Schedule; GA.

Hardware schedule listing all items to be furnished. The schedule shall include for each item: the quantities; manufacturer's name and catalog numbers; the ANSI number specified, sizes; detail information or catalog cuts; finishes; door and frame size and materials; location and hardware set identification cross-references to drawings lock trim material thickness; lock trim material evaluation test results;; lock trim material thicknesses; lock trim material evaluation test results; corresponding reference standard type number or function number from manufacturer's catalog if not covered by ANSI or BHMA; and list of abbreviations and template numbers.

Keying Schedule; GA.

Keying schedule developed in accordance with DHI Keying Systems, after the keying meeting with the user.

SD-13 Certificates

Hardware and Accessories; GA.

The hardware manufacturer's certificates of compliance stating that the supplied material or hardware item meets specified requirements. Each certificate shall be signed by an official authorized to certify in behalf of the product manufacturer and shall identify quantity and date or dates of shipment or delivery to which the certificates apply. A statement that the proposed hardware items appear in BHMA L & R Directory, BHMA Closer Directory and BHMA Exit Devices Directory directories of certified products may be submitted in lieu of certificates. Furnish a separate certificate of compliance attesting that hardware items comform to the Section 00700 Contract clauses pertaining to the Buy American Act.

"SD-14 Samples

Locksets; GA.

Furnish a sample of the locksets to be furnished this project. Notify the

Contracting Officer and base personnel for a meeting demonstrating that the locksets to be furnished are fully compatible with the existing keying system. An existing base core, cylinder, and key will be fitted to the sample lockset. The core and cylinder shall fit the lockset without the use of adaptors and without play. The key shall easily lock and unlock the lockset without binding or other difficulties. Control key shall easily remove and install cores."

1.3 PREDELIVERY CONFERENCE

Upon approval of the Hardware Schedule, the construction Contractor shall arrange a conference with the hardware supplier, Contracting Officer and the using agency to determine keying system requirements. Location of the key control storage system, set-up and key identification labeling will also be determined.

1.4 DELIVERY, STORAGE, AND HANDLING

Hardware shall be delivered to the project site in the manufacturer's original packages. Each article of hardware shall be individually packaged in the manufacturer's standard commercial carton or container, and shall be properly marked or labeled to be readily identifiable with the approved hardware schedule. Each change key shall be tagged or otherwise identified with the door for which its cylinder is intended. Where double cylinder functions are used or where it is not obvious which is the key side of a door, appropriate instructions shall be included with the lock and on the hardware schedule. Manufacturer's printed installation instructions, fasteners, and special tools shall be included in each package.

1.5 SPECIAL TOOLS

Special tools, such as those supplied by the manufacturer, unique wrenches, and dogging keys, shall be provided as required to adjust hardware items.

1.6 WARRANTY

Manufacturer's standard performance guarantees or warranties that extend beyond a one year period shall be provided.

1.7 OPERATION AND MAINTENANCE MANUALS

Six complete copies of maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides shall be provided. The instructions for electric locks, electric strikes, electro-magnetic closer holder release devices, and electric exit devices shall include simplified diagrams as installed.

PART 2 PRODUCTS

2.1 GENERAL HARDWARE REQUIREMENTS

Hardware shall conform to the requirements specified herein and the HARDWARE SETS listing at the end of this section. Hardware set numbers correspond to the set numbers shown on the drawings.

2.2 TEMPLATES

Requirements for hardware to be mounted on metal doors or metal frames

shall be coordinated between hardware manufacturer and door or frame manufacturer by use of templates and other information to establish location, reinforcement required, size of holes, and similar details. Templates of hinges shall conform to BHMA A156.7.

2.3 HINGES

Hinges shall conform to BHMA A156.1. Hinges used on metal doors and frames shall also conform to BHMA A156.7. Except as otherwise specified, hinge sizes shall conform to the hinge manufacturer's printed recommendations.

2.3.1 Hinges for Reverse Bevel Doors with Locks

Hinges for reverse bevel doors with locks shall have pins that are made nonremovable by means such as a set screw in the barrel, or safety stud, when the door is in the closed position.

2.3.2 Contractor's Option

Hinges with antifriction bearings may be furnished in lieu of ball bearing hinges, except where prohibited for fire doors by the requirements of NFPA 80.

2.3.3 Pivot Hinges

Pivot hinges shall conform to BHMA A156.4.

2.4 LOCKS AND LATCHES

To the maximum extent possible, locksets, latchsets and deadlocks, and all components thereof, including cylinders and removable cores, shall be the products of a single manufacturer. Lock fronts for double-acting doors shall be rounded. Strikes for wood frames and pairs of wood doors shall be furnished with wrought boxes.

2.4.1 Mortise Lock and Latchsets

Mortise lock, latchsets, and strikes shall be series 1000 and shall conform to BHMA A156.13, operational Grade 1. Strikes for security doors shall be rectangular without curved lip. Mortise type locks and latches for doors 44 mm thick and over shall have adjustable bevel fronts or otherwise conform to the shape of the door. Mortise locks shall have armored fronts.

2.4.2 Auxiliary Locks and Associated Products

Bored and mortise dead locks and dead latches, narrow style dead locks and dead latches, rim latches, dead latches, and dead bolts, shall conform to BHMA A156.5. Bolt and latch retraction shall be dead bolt style. Strike boxes shall be furnished with dead bolt and latch strikes for Grade 1.

2.4.3 Lock Cylinders (Mortise, Rim and Bored)

Lock cylinders shall comply with BHMA A156.5. Lock cylinder shall have not less than seven pins. Cylinders shall have key removable type cores. A master keying system shall be provided. Construction interchangeable cores shall be provided. Disassembly of lockset shall not be required to remove core from lockset. All locksets, lockable exit devices, and padlocks shall accept same interchangeable cores.

2.4.4 Lock Trim

Lock trim shall be cast, forged, or heavy wrought construction of commercial plain design. In addition to meeting the test requirement of BHMA A156.13, lever handles, and escutcheons shall be 1.27 mm thick, if unreinforced. If reinforced, the outer shell shall be 0.89 mm thick and the combined thickness shall be 1.78 mm. Lever handles shall be of plain design with ends returned to no more than 10 mm from the door face.

2.5 EXIT DEVICES AND EXIT DEVICE ACCESSORIES

Exit devices and exit device accessories shall conform to BHMA A156.3, Grade 1.

2.5.1 Exit Devices and Auxiliary Items

Trim shall be of wrought construction and commercial plain design with straight, beveled, or smoothly rounded sides, corners, and edges. Adjustable strikes shall be provided for rim type and vertical rod devices. Open back strikes shall be provided for pairs of doors with mortise and vertical rod devices; except open back strikes shall be used on labeled doors only where specifically provided for in the published listings. Touch bars shall be provided in lieu of conventional crossbars and arms. Escutcheons shall be provided not less than 175 by 55 mm. Escutcheons shall be cut to suit cylinders and operating trim.

2.5.2 Automatic Flush Bolts

Automatic flush bolts shall be Type 25 in accordance with BHMA A156.3, and shall be installed at the top and bottom of the inactive leaf of pairs of fire rated doors where specified in the hardware sets. Flush bolts shall be mortised in the strike edge of the door.

2.6 KEYING

Locks shall be keyed in sets or subsets as scheduled. **Buildings are to be keyed seperately. AM #0005** **Cylinders and cores for building 1522 shall match building 1522 existing keying system. AM #0005** Locks shall be furnished with the manufacturer's standard construction key system. Change keys for locks shall be stamped with change number and the inscription "U.S. Property - Do Not Duplicate." Keys shall be supplied as follows:

Locks:	3 change keys each lock.
Master keyed sets:	3 keys each set.
Control keys:	total.
Construction keys:	5 total.
Blank keys:	200 total.

The keys shall be furnished to the Contracting Officer arranged in a container for key control system storage in sets or subsets as scheduled.

2.7 DOOR CLOSING DEVICES

Door closing devices shall conform to BHMA A156.4, Grade 1. Closing devices shall be products of one manufacturer for each type specified. The

opening resistance of closing devices shall not exceed 67 N applied at the latch stile or exceed 22 N where low opening resistance is scheduled.

2.7.1 Surface Type Closers

Surface type closers shall be Grade 1, Series C02000 Full Cover with options PT-4H, Size 1 or 2 through Size 6, and PT-4D with back check position valve. Except as otherwise specified, sizes shall conform to the manufacturer's published recommendations. Closers for outswinging exterior doors shall have parallel arms or shall be top jamb mounted. Closers for doors close to a wall shall be of narrow projection so as not to strike the wall at the 90-degree open position. Closers on doors accessible to the physically handicapped shall have the closing force set for a push-pull of 2.27 kg (5 pounds) applied at the knob or handle for interior doors; for exterior doors, set to the minimum required to relatch the door.

2.8 DOOR CONTROLS - OVERHEAD HOLDERS

Door controls - overhead holders shall conform to BHMA A156.8.

2.9 ARCHITECTURAL DOOR TRIM

Architectural door trim shall conform to BHMA A156.6.

2.9.1 Door Protection Plates

2.9.1.1 Kick Plates

Kick plates shall be Type J102 stainless steel. Width of plates shall be 50 mm less than door width for single doors and 25 mm less for pairs of doors. Height shall be 400 mm, except where the bottom rail is less than 250 mm the plate shall extend to within 13 mm of the panel mold or glass bead. All four (4)edges of plates shall be beveled.

2.9.1.2 Mop Plates

Mop plates shall be Type J103 stainless steel. Width of plates shall be 50 mm less than door width for single doors and 25 mm less for pairs of doors. The height shall be 100 mm.
All four (4)edges of plates shall be beveled.

2.9.2 Push Plates

2.9.2.1 Flat Plates

Flat plates shall be Type J301 1.27 mm thick brass , size 150 mm x 400 mm. Edges of plates shall be beveled.

2.9.3 Door Pulls and Push/Pull Units

2.9.3.1 Door Pulls

Door pulls shall be Category J400 brass of plain modern design. Pulls for hollow metal, mineral core wood or kalamein doors shall be Type J405 thru-bolted to Type J301 flat push plates.

2.9.4 Push and Pull Bars

Push and pull bars shall be Category J500, brass. All four (4) edges of mounting plates shall be beveled.

2.10 AUXILIARY HARDWARE

Auxiliary hardware, consisting of door holders, door stops, , shall conform to BHMA A156.16. Lever extension flush bolts shall be Type L14081. Dust-proof strikes shall be Type L04011 for doors that are not fire rated. Dust-proof strikes shall be Type L04021 for fire rated doors. Other auxiliary hardware of the types listed below, shall conform to BHMA A156.16. ` Floor mounted door stop risers shall be used on all doorstops that are not of sufficient height to stop the door.

2.11 MISCELLANEOUS

2.11.1 Metal Thresholds

Thresholds shall conform to BHMA A156.21. Thresholds for exterior doors shall be extruded aluminum of the type indicated and shall provide proper clearance and an effective seal with specified weather stripping. Latching thresholds shall be of such height that the bottom of the door shall be 3 mm over the tread of the threshold and 3 mm below the top of the stop. Where required, thresholds shall be modified to receive projecting bolts of flush bolts exit devices. Thresholds for doors accessible to the handicapped shall be beveled with slopes not exceeding 1:2 and with heights not exceeding 13 mm. Air leakage rate of weatherstripping shall not exceed 0.775 liters per second per lineal meter of crack when tested in accordance with ASTM E 283 at standard test conditions.

2.11.2 Rain Drips

Extruded aluminum, not less than 1.78 mm thick, mill finished. Door sill rain drips shall be 38 mm to 44 mm high by 16 mm projection. Overhead rain drips shall be approximately 38 mm high by 63 mm projection and shall extend 50 mm on either side of the door opening width.

2.11.3 Aluminum Housed Type Weatherseals

Weatherseals of the type indicated shall consist of extruded aluminum retainers not less than 1.78 mm wall thickness with vinyl, neoprene, silicone rubber, polyurethane or vinyl brush inserts. Aluminum shall be clear (natural) anodized. Weatherseal material shall be of an industrial/commercial grade. Seals shall remain functional through all weather and temperature conditions. Air leakage rate of weatherstripping shall not exceed 0.775 liters per second per lineal meter of crack when tested in accordance with ASTM E 283 at standard test conditions.

2.11.4 Key Control Storage System

Key control storage system shall conform to BHMA A156.5, Type E8351, capacity 300, and shall be properly labeled for key identification. Set up, identification labeling and location of the key control storage shall be as directed at the Predelivery Conference.

2.11.5 Door Stops

Wall stops, floor stops and combination stop and holders shall conform to BHMA A156.16.

2.12 FASTENINGS

Fastenings of proper type, size, quantity, and finish shall be supplied with each article of hardware. Machine screws and expansion shields shall be used for attaching hardware to concrete or masonry. Fastenings exposed to the weather in the finished work shall be of brass, bronze, or stainless steel. Sex bolts, through bolts, or machine screws and grommet nuts, where used on reverse-bevel exterior doors equipped with half-surface or full-surface hinges, shall employ one-way screws or other approved tamperproof screws. Screws for the jamb leaf of half-mortise and full-surface hinges attached to structural steel frames shall be one-way or other approved tamperproof type.

2.13 FINISHES

Unless otherwise specified, finishes shall conform to those identified in BHMA A156.18. Where painting of primed surfaces is required, painting is specified in Section 09900 PAINTING, GENERAL.

2.14 HARDWARE FOR FIRE DOORS

Hardware for fire doors shall conform to the requirements of NFPA 80and NFPA 101.

PART 3 EXECUTION

3.1 APPLICATION

Hardware shall be located in accordance with DHI Locations for CSD and DHI Locations for SSD, except that deadlocks shall be mounted 1220 mm above finish floor. When approved, slight variations in locations or dimensions will be permitted. Application shall be in accordance with DHI ANSI/DHI A115.1G or DHI ANSI/DHI A115-W. Door control devices for exterior doors such as closers and holders, shall be attached to doors with thru bolts and nuts or sex bolts. Alternate fastening methods may be approved by the Contracting Officer when manufacturers' documentation is submitted to verify that the fastening devices and door reinforcements are adequate to resist wind induced stresses. Electric hardware items and access control devices shall be installed in accordance with manufacturer's printed installation procedures.

3.1.1 Hardware for Fire Doors and Smoke-Control Door Assemblies

Hardware for fire doors shall be installed in accordance with the requirements of NFPA 80. Exit devices installed on fire doors shall have a visible label bearing the marking "Fire Exit Hardware". Other hardware installed on fire doors, such as locksets, closers, and hinges shall have a visible label or stamp indicating that the hardware items have been approved by an approved testing agency for installation on fire-rated doors. Hardware for smoke-control door assemblies shall be installed in accordance with NFPA 105.

3.1.2 Door-Closing Devices

Door-closing devices shall be installed and adjusted in accordance with the templates and printed instructions supplied by the manufacturer of the devices. Insofar as practicable, doors opening to or from halls and corridors shall have the closer mounted on the room side of the door.

3.1.3 Key Control Storage Systems

Key control storage system shall be installed where directed .

3.1.4 Kick Plates and Mop Plates

Kick plates shall be installed on the push side of single-acting doors and on both sides of double-acting doors. Mop plates shall be installed on the pull side of the single acting doors.

3.1.5 Auxiliary Hardware

Lever extension flush bolts shall be installed at the top and bottom of the inactive leaf of pairs of doors. The bottom bolt shall operate into a dust-proof floor strike or threshold.

3.1.6 Thresholds

Thresholds shall be secured with a minimum of three fasteners per single door width and six fasteners per double door width with a maximum spacing of 300 mm. Exterior thresholds shall be installed in a bed of sealant with expansion anchors and stainless steel screws, except that bronze or anodized bronze thresholds shall be installed with expansion anchors with brass screws. Minimum screw size shall be No. 10 length, dependent on job conditions, with a minimum of 19 mm thread engagement into the floor or anchoring device used.Thresholds shall have ends scribed neately to jambs

3.1.7 Rain Drips

Door sill rain drips shall align with the bottom edge of the door. Overhead rain drips shall align with bottom edge of door frame rabbet. Drips shall be set in sealant and fastened with stainless steel screws.

3.1.8 Weatherseals

Weatherseals shall be located as indicated, snug to door face and fastened in place with color matched metal screws after door and frames have been finish painted. Screw spacing shall be as recommended by manufacturer.

3.2 OPERATIONAL TESTS

Prior to acceptance of any electrical hardware system, an operational test shall be performed to determine if devices are operating as intended by the specifications. Wiring shall be tested for correct voltage, current carrying capacity, and proper grounding. Stray voltages in lock wiring shall be eliminated to prevent locking devices from releasing in critical situations.

3.3 FIELD QUALITY CONTROL

Supplier shall inspect the completed installation and certify that the hardware has been furnished and installed in accordance with the

manufacturers' instructions and as specified. The inspection report shall identify any malfunctioning items and recommend adjustment or replacement as appropriate.

3.4 HARDWARE SETS

USAR TRAINING CENTER

THW-1 Door no. 101A, 102A, 103A, 104A, 105A, 108A, 109A, 115A, 115B, 117A, 117B, 118A, 120A, 120B, 122A, 122B, 125A, 126A, 127A, 127B, 128A, 128B, 129A, 135A, 137A, 138A, 147A, 150A, 151A, 152A, 157A, 162A, 163A, 164A, 165A, KO3A, 201A, 202A, 203A, 204A, 206A, 207A, 208A, 209A, 210A, 211A, 216A, 216B, 218A, 218B, 221A, 221B, 223A, 225A, 226A, 227A, 229A, 230A, 231A, 233A, 234A, 235A, 243A, 244A, 245A, 248A, 249A, 253A, 254A, 255A, 256A, 257A, 258A, 259A, 260A, 262A, 263A, 264a, 265A, 268A, 269A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Stop, **L55141 x 626 AM #0005**

THW-2 Door no. 106A, 106B, 205B

3 ea. Hinges, A2111 AM #0005 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Exit device, type 1, function 08 x **630 AM #0005**
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Stop, L12141 x **626 AM #0005**

THW-3 Door no. 110A, 131B,

2 ea. Pivots, C07162, by door manufacturer x finish to match door
1 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
1 ea. Closer, C75051 x by door manufacturer x finish to match door
1 ea. Pull bar, J502 by door manufacturer x factory finish to match door.
1 ea. Exit device, type 3, function 08 (High Security Cylinder) x finish to match door
1 ea. Stop, L11371 x ES x **626 AM #0005**
1 set Weatherstripping at head and jambs
1 ea. Threshold interlocking, J34170 x **628 AM #0005** (with applied hook)

THW-4 Door no. 113A, 159A 215A, 224A(Fire Rated)

6 ea. Hinges, A5111 x 630
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Self latching extension flush bolt Type 27 x **626 AM #0005**
1 ea. Dust proof strike, L54021 x 630
2 ea. Overhead stops, C12511 x **626 AM #0005**
2 ea. Closers, C72021, PT-4G x **689 AM #0005**
2 ea. Kickplates, J102 x 630
2 ea. Mop plate, J103 x 630 (for 113A & 159A only)

THW-5 Door no. 121A, 123A, 132A, 148A, 149A, 149B
155C, 219A, 219B, 217A, 240A, 266A (Fire Rated)

3 ea. Hinges, A5111 x Non Removable Pin x Safety Stud x 630
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Closer, C72011, PT-4G x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Threshold, as detailed x marble (door 149A only)
1 ea. Stop, L11371 x ES x **626 AM #0005**

THW-6 Door no. 131A

2 ea. Pivots, C07162, by door manufacturer x finish to match door
1 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
1 ea. Closer, C75051 x by door manufacturer x finish to match door
1 ea. Bar set, J504 by door manufacturer x factory finish to match door.
1 ea. Door stop, L11371 x ES x **626 AM #0005**

THW-7 Door no. 134A, 144A, 241A, 250A

3 ea. Hinges, A5111 x 630
1 ea. Push Plate, J304 x 630
1 ea. Pull Plate, J407 x 630
1 ea. Closer, C72011 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Mop Plate, J103 x 630
1 ea. Stop, L52141 x 630
1 ea. Garment hook, **L52131 x 630 AM #0005**
1 ea. Threshold, J32130 x 628

THW-8 Door no. 136A

6 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Self latching extension flush bolt Type 27 x 630
1 ea. Dust proof strike, L54021 x 630
2 ea. Overhead stops, C12511 x **626 AM #0005**

1 set Weatherstripping @ head, jamb, and meeting stiles
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)

THW-9 Door no. 142A, 246A (Fire Rated)

3 ea. Hinges, A5111 x 630
1 ea. Lockset, F07 x 630
1 ea. Closer, **C72021 AM #0005** x 689
1 ea. Kickplate, J102 x 630
1 ea. Mop plate, J103 x 630
1 ea. Stop, **L11371 x ES x 626 AM #0005**
1 ea. Threshold, as detailed x marble

THW-10 Door on. 143A, 143B

2 ea. Pivots, C07162, by door manufacturer x finish to match door
2 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
2 ea. Closer, C75051 x by door manufacturer x finish to match door
2 ea. Bar set, J504 by door manufacturer x factory finish to match door.
2 ea. Door stop, L11371 x ES x **626 AM #0005**

THW-11 Door no. 146A (Fire Rated)

By manufacturer

THW-12 Door no. 149C, 161D

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**5
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 set Weatherstripping @ head and jamb
1 ea. Door stop, L11371 x ES x **626 AM #0005**
1 set Rain Drip @ Head x 628
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)

THW-13 NOT USED

THW-14 Door no. 153A, 261A, 205A

6 ea. Hinges, A2111 x **626 AM #0005**
1 ea. Exit device, type 6, Function 08 x RHR x **630 AM #0005**
1 ea. Exit device, type 6, Function 02 x trim to match active door x **630 AM #0005**
2 ea. Closers, C72021 x **689 AM #0005**
2 ea. Kickplates, J102 x 630
2 ea. Overhead stops, C12541 x **626 AM #0005**

THW-15 Door no. 153B, 261B, 205B

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Exit device, Type 1, Function F08 x **630 AM #0005**
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Door stop, L11371 x ES x **626 AM #0005**

THW-16 Door no. 154A

3 ea. Hinges, A2111 x 626 AM #0005
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Closer, C72011 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Door stop, L11371 x ES x **626 AM #0005**

THW-17 Door no. 155A, 155B

4 ea. Pivots, C07162, by door manufacturer x finish to match door
2 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
2 ea. Closer, C75051 x by door manufacturer x finish to match door
2 ea. Pull bar, J502 by door manufacturer x factory finish to match door.
1 ea. Exit device, type 3, function 08 (High Security Cylinder) x finish to match door
1 ea. Exit device, type 3, function 02 x finish to match door
2 ea. Stop, L11371 x ES x **626 AM #0005**
1 set Weatherstripping at head, jambs and meeting stiles
1 ea. Threshold interlocking, J34170 x **628 AM #0005** (with applied hook)

THW-18 Door no. 156A, 251A

By manufacturer

THW-19 NOT USED

THW-20 Door no. 158A, 267A (Fire Rated)

3 ea. Hinges, A5111 x Non Removable pin x Safety Stud x 630
1 ea. Exit device, Type 1, Function 08 x **630 AM #0005**
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Stop, L11371 x ES x **626 AM #0005**

THW-21 Door no. 161A(Fire Rated)

6 ea. Hinges, A5111 x Non Removable pin x Safety Stud x 630
1 ea. Exit device, type 6, Function 08 x **630 AM #0005**
1 ea. Exit device, type 6, Function 02 x trim to match active door x **630 AM #0005**
2 ea. Closers, C72011, PT-4G x **689 AM #0005**
2 ea. Kickplates, J102 x 630
2 ea. Stops, L11371 x ES x **626 AM #0005**

THW-22 Door no. 161B, 161C

6 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 (Hign Security Cylinder) **630 AM #0005**
1 ea. Self latching extension flush bolt Type 27 x **626 AM #0005**
1 ea. Dust proof strike, L54021 x 630
2 ea. Overhead stops, C12511 x **626 AM #0005**
2 ea. Closers, C72021, x **689 AM #0005**
2 ea. Kickplates, J102 x 630
1 set Weatherstripping @ head, jamb, and meeting stiles
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)
1 ea. Raindrip @ head x 628

THW -23 Door no. 149D, 149E

By manufacturer

THW-24 Door no. 301A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 set Weatherstripping @ head and jamb
1 ea. Overhead stop, C12511 x **626 AM #0005**
1 set Rain Drip @ Head x 628
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)

UNIT STORAGE BUILDING

SHW-1 Door no. 101A

By manufacturer

SHW-2 Door no. 101B, 101C, 101D, 101E, 116A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Closer, C72021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 set Weatherstripping @ head and jamb
1 ea. Door stop, L11371 x ES x **626 AM #0005**
1 set Rain Drip @ Head x 628
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)

SHW-3 Door no. 102A, 103A, 104A, 105A, 106A, 107A, 108A, 109A, 110A, 111A, 113A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**5
1 ea. Stop, L12141 x **626 AM #0005**

SHW-4 Door no. 112A, 114A

3 ea. Hinges, **A2111 x 626 AM #0005**
1 ea. Lockset, F12 x 630
1 ea. Closer, C72011 x 689
1 ea. Kickplate, J102 x 630
1 ea. Mop plate, J103 x 630
1 ea. Stop, **L11371 x ES x 626 AM #0005**
1 ea. Threshold, as detailed x marble

SHW-5 Door no. 115A

6 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (Hign Security Cylinder)
1 ea. Self latching extension flush bolt Type 27 x **626 AM #0005**
1 ea. Dust proof strike, L54021 x 630
2 ea. Overhead stops, C12511 x **626 AM #0005**
1 set Weatherstripping @ head, jamb, and meeting stiles
1 ea. Threshold interlocking, J34170 x 628 (with applied hook)

ECS MAINTENANCE BUILDING

MHW-1 Door no. 101A, 104A, 104B, 105A, 107A, 109A, 111A, 111B, 112A, 114A, 116B, 124A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Stop, L12141 x **626 AM #0005**

MHW-2 Door no. 102A

4 ea. Pivots, C07162, by door manufacturer x finish to match door
2 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
2 ea. Closer, C75051 x by door manufacturer x finish to match door
2 ea. Pull bar, J502 by door manufacturer x factory finish to match door.
1 ea. Exit device, type 3, function 08 (High Security Cylinder) x finish to match door
1 ea. Exit device, type 3, function 02 x finish to match door
2 ea. Stop, L11371 x ES x **626 AM #0005**
1 set Weatherstripping at head, jambs and meeting stiles
1 ea. Threshold interlocking, J34170 x **628 AM #0005** (with applied hook)

MHW-3 Door no. 102B

2 ea. Pivots, C07162, by door manufacturer x finish to match door
2 ea. Intermediate pivot, C07321 by door manufacturer x finish to match door
2 ea. Closer, C75051 x by door manufacturer x finish to match door
2 ea. Bar set, J504 by door manufacturer x factory finish to match door.
2 ea. Door stop, L11371 x ES x **626 AM #0005**

MHW-4 Door no. 106A, 108A, 110A,

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Stop, L12141 x **626 AM #0005**
1 ea. Closer, C72011 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Mop plate, J103 x 630
1 ea. Threshold, as detailed x marble

MHW-5 Door no. 108B

3 ea. Hinges, A2111x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Closer, C02021 x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Mop plate, J103 x 630
1 ea. Stop, L11371 x ES x **626 AM #0005**
1 ea. Threshold, as detailed x marble

MHW-6 Door no. 113A, 116A, 117A, 123A

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 (High Security Cylinder) x **630 AM #0005**
1 ea. Closer, C72021 x **689 AM #0005** (for 113A only)
1 ea. Closer, C72011 x **689 AM #0005** (for 116A, 117A, 123A only)
1 ea. Kickplate, J102 x 630
1 ea. Door sweep, ROY535 x 628
1 set Weatherstripping @ head and jambs
1 ea. Stop, L11371 x ES x **626 AM #0005**
1 ea. Threshold, J32100 x 628

MHW-7 Door no. 115A, 119A, 122A, 123B

6 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005** (High Security Cylinder)
1 ea. Self latching extension flush bolt, Type 27 x **626 AM #0005**
1 ea. Dust proof strike, L54021 x 630
2 ea. Overhead stops, C12511 x **626 AM #0005**
1 ea. Threshold, interlocking, J34170 x 628 (with applied hook)

MHW-8 Door no. 118A, 118F, 118K, 118P, 118U, 121A

3 ea. Hinges, **A2111 AM #0005** x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x 630 (High Security Cylinder)
1 ea. Closer, C72011 x 689
1 ea. Kickplate, J102 x 630
1 ea. Threshold, interlocking, J34170 x 628 (with applied hook)
1 ea. Stop, L11371 x ES x **626 AM #0005**

MHW-9 Door no. 118B, 118C, 118D, 118E, 118G, 118H, 118I, 118J, 118L, 118M, 118N, 118O, 118Q, 118R, 118S, 118T

By manufacturer

BUILDING 1522 RENOVATIONS

RHW-1 Door no. 002A, 002B, 002C,

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Stop, L12141 x **626 AM #0005**

RHW-2 Door no. 003A (Fire Rated)

3 ea. Hinges, A2111 x Non Removable pin x Safety Stud x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Closer, C72011 x PT-4G x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Stop, L12141 x **626 AM #0005**

RHW-3 Door no. 013A, 014A

3 ea. Hinges, A2111 x **626 AM #0005**
1 ea. Lockset, F12 x **630 AM #0005**
1 ea. Closer, C72011 x PT-4G x **689 AM #0005**
1 ea. Kickplate, J102 x 630
1 ea. Mop plate, J103 x 630
1 ea. Garmet hook, **L52131 x 630 AM #0005**
1 ea. Stop, L12141 x **626 AM #0005**
1 ea. Threshold, as detailed x marble

-- End of Section --